PAT-NO: JP402252632A

DOCUMENT-IDENTIFIER: JP 02252632 A

TITLE: PRODUCTION OF OPTICAL FIBER PREFORM

PUBN-DATE: October 11, 1990

INVENTOR-INFORMATION:
NAME
HORIKOSHI, MASAHIRO
YAMAUCHI, RYOZO
MIYAMOTO, SUEHIRO
NISHIDE, KENJI
TANAKA, TAIICHIRO
OUCHI, YOSHIHIRO
YAMADA, SHIGETOSHI

INT-CL (IPC): C03B037/016, G02B006/00

US-CL-CURRENT: 385/123

ABSTRACT:

PURPOSE: To improve the strength and weather resistance of the subject preform by depositing glass soot on a glass for optical fiber to form a porous glass preform, impregnating a sol produced by the hydrolysis of a specific alkoxide mixture into said porous preform and making the preform transparent by heating in two stages.

CONSTITUTION: A quartz glass rod is polished with an oxyhydrogen flame and soot of SiO<SB>2</SB> glass is deposited on the rod to form a porous glass preform. Separately, 1mol of a mixture of an Si alkoxide and a Zr and/or Ti alkoxide is hydrolyzed by adding 4mol of an alcohol, 5mol of water and a catalyst such as hydrochloric acid to form a sol. The above porous glass preform is immersed into the sol, pulled up, gelatinized at about 60°C. heated in O<SB>2</SB> or an O<SB>2</SB>- containing mixed gas atmosphere at
≤1000°C and finally heated at ≥1000°C in He, O<SB>2</SB> or a

Cl<SB>2</SB>-containing mixed He gas atmosphere to obtain the objective amorphous quartz optical fiber preform having the outermost amorphous coating layer containing ZrO<SB>2</SB> and/or TiO<SB>2</SB> and having higher melting
point and lower expansion coefficient than those of the core and clad glass.